# Groundwater Cleanup Studies Continue in the San Fernando Valley Basin

*United States Environmental Protection Agency, Region IX, San Francisco*

**Fact Sheet Number 5** **July 1990**

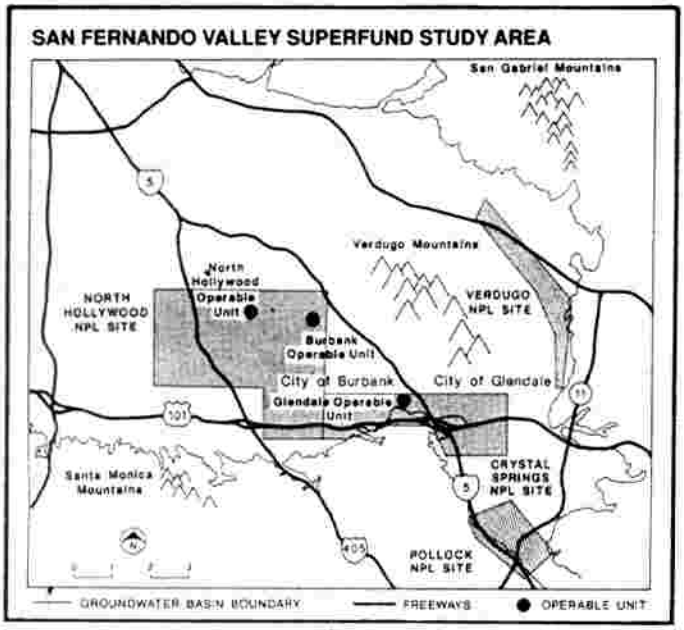


**FIGURE 1**

## WHAT IS SUPERFUND?

Superfund is the common name used for the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA). This federal law authorizes EPA to respond to releases or threatened releases of hazardous substances that may endanger public health and the environment.

## INTRODUCTION

Federal, state and local agencies have been conducting investigations and cleanup of contaminated groundwater in the San Fernando Valley Basin since contamination was discovered in 1979.

This document discusses recent and future studies and activities under the Environmental Protection Agency (EPA) Superfund program. These activities include measuring the extent of contamination, developing and implementing cleanup remedies, and making polluters pay for cleanup.

## SITE BACKGROUND

The San Fernando Valley is located between the San Gabriel Mountains and the Santa Monica Mountains. Several groundwater basins in the valley are collectively referred to as the San Fernando Valley Basin. The basin is an important source of drinking water for the Los Angeles metropolitan area, La Crescenta, and the Cities of Glendale, Burbank, and San Fernando (Figure 1).

In 1986, EPA placed four sites in the San Fernando Valley Basin on the Superfund National Priorities List (NPL). The NPL is a list of the most seriously contaminated hazardous waste sites eligible for federal cleanup funds under the Superfund program. As shown on Figure 1, the four sites are North Hollywood, Crystal Springs, Verdugo and Pollock. The sites are located in the cities of Los Angeles, Burbank, and Glendale. Although specific groundwater cleanup actions are taking place at each site, EPA manages the entire San Fernando Valley Basin cleanup as one large site, referred to as the San Fernando Valley Study Area.

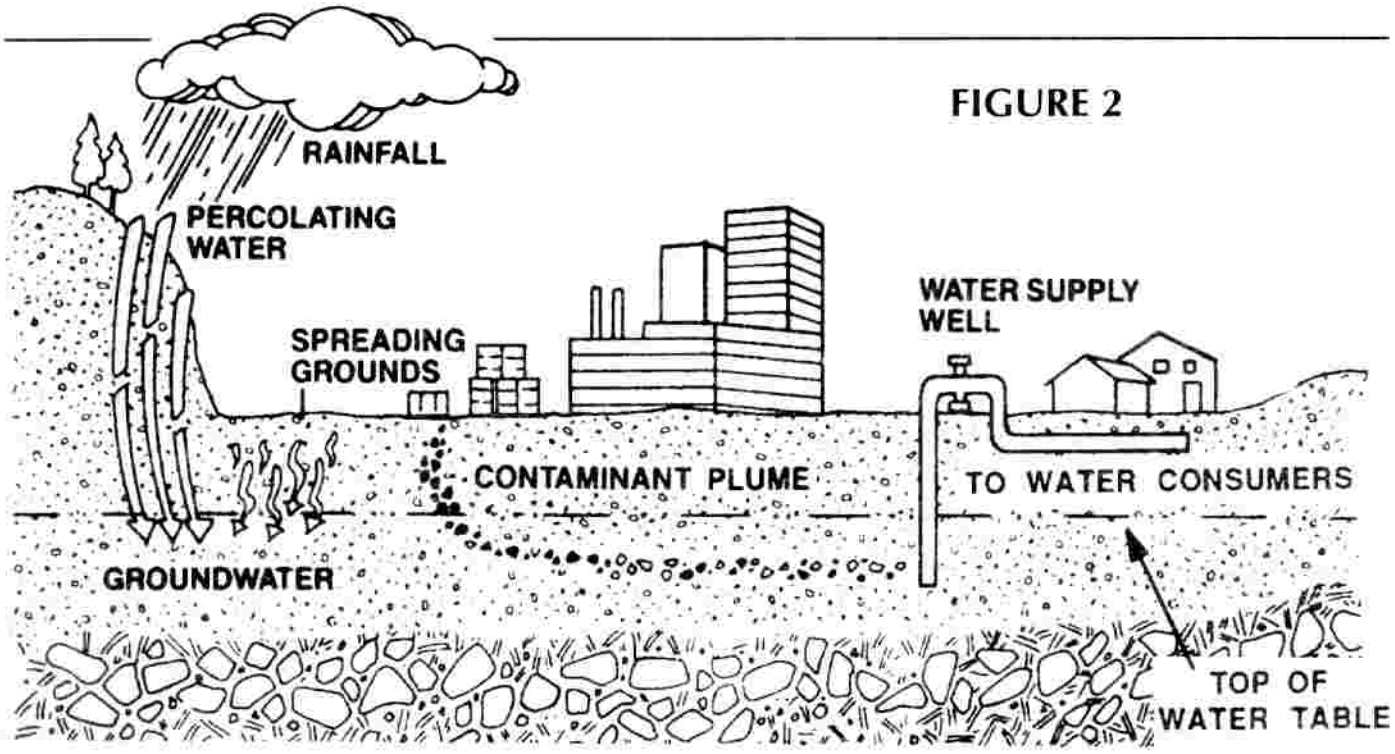


FIGURE 2

*The primary contaminants found in the San Fernando Valley Groundwater Basin are industrial solvents. These solvents have found their way to the groundwater basin as a result of improper use, storage, and disposal practices.*

# CONTAMINANTS

The Superfund sites are areas where groundwater from wells has been found to contain volatile organic compounds (VOCs) above state and federal drinking water standards. Volatile organic compounds are chemicals that evaporate readily when exposed to air. Some VOCs have been shown to increase the rate of cancer in laboratory animals. Exposure to these chemicals may also increase the risk of cancer in humans. Volatile organic compounds have been and/or are being used in many San Fernando Valley industries, such as aeronautical, automotive, dry cleaning and metal plating. Figure 2 illustrates how groundwater becomes contaminated.

The Los Angeles Department of Water and Power (LADWP), California Department of Health Services (DHS), California Regional Water Quality Control Board (Regional Board), EPA, and local water agencies have taken steps to reduce human exposure to these chemicals. Many contaminated wells have been shut down and drinking water has been provided from alternate surface water sources such as the Owens River Aqueduct, the Colorado River Aqueduct, and the California Aqueduct. In some cases, groundwater is blended with surface water from other sources to meet drinking water standards.

***Public drinking water in the San Fernando Valley Basin area is safe to drink.*** Drinking water is tested regularly before it is delivered to consumers.

# BASINWIDE ACTIVITIES

## Basinwide Investigations

EPA is overseeing the basinwide Remedial Investigation being conducted by LADWP, to study the groundwater flow patterns and the nature and extent of groundwater contamination within the eastern half of the San Fernando Valley Basin.

The Remedial Investigation has been divided into two phases. In phase one, LADWP has installed 43 shallow monitoring wells to obtain preliminary contamination information at the four NPL sites; 14 monitoring wells at the North Hollywood site; 11 wells at the Crystal Springs site; 11 wells at the Pollock site; and 7 wells at the Verdugo site. LADWP will also install 14 well clusters during 1990 to collect more detailed information by sampling groundwater at different depths. Based on the results of phase one, an additional 63 wells may be installed in phase two.

The data obtained from the remedial investigation and more than 60 private wells and existing

monitoring and production wells will be used to construct a computerized groundwater and contamination flow model. The data and model will help EPA select the most effective cleanup alternatives. Figure 3 shows the approximate location of VOC contamination above the maximum contaminant level (MCL) based on current data.

## Basinwide Cleanup Plans

EPA is developing a Basinwide Plan to examine contamination cleanup methods, with the goal of minimizing public health risks and environmental impacts. The study uses available data from the Remedial Investigation to evaluate and compare cleanup alternatives. EPA is also evaluating the effectiveness of existing operable unit projects, such as the North Hollywood Treatment Facility (page 4) and considering whether or not other interim measures will be required. The Basinwide Plan will incorporate the basinwide technical needs, the operable units, and agency roles into a statement of long-range cleanup goals and methods.

## Payment for Cleanup Activities

Enforcement is one of the most important Superfund activities. Enforcement efforts are underway in the basin to get polluters to pay for cleanup and to prevent further contamination.

EPA and the Regional Board are identifying potential sources of contamination and pursuing facility owners or operators that may be responsible for contaminating groundwater, regardless of when the contamination occurred. Potential sources include businesses, industries, or agencies that generate, transport, use, treat, store, or dispose of the hazardous substances. Hundreds of facilities in the Valley are possible sources.

The search for contamination sources includes, but is not limited to, site visits and review of historic aerial photographs and agency files. EPA requests information from industrial facilities about historic property use, industrial processes, and hazardous substance handling. EPA will also use groundwater data and modeling to help trace contamination to its source.

The Regional Board conducts investigations at individual facilities to determine if they have contamination. If contamination is found, the Regional Board will oversee cleanup activities at the site. EPA reviews the information gathered by the Regional Board and determines whether facility owners or operators are potentially responsible for the groundwater cleanup. If they are found to be a Potentially Responsible Party (PRP), EPA will negotiate an enforcement agreement with them. EPA encourages the PRPs to perform cleanups themselves whenever possible.

If a settlement is not reached, EPA has the authority to order PRPs to do the work with EPA oversight. If PRPs do not abide by the order, EPA may file suit against them. If EPA does the work, EPA can also file suit against the PRPs to recover the federal money spent on the site cleanup.

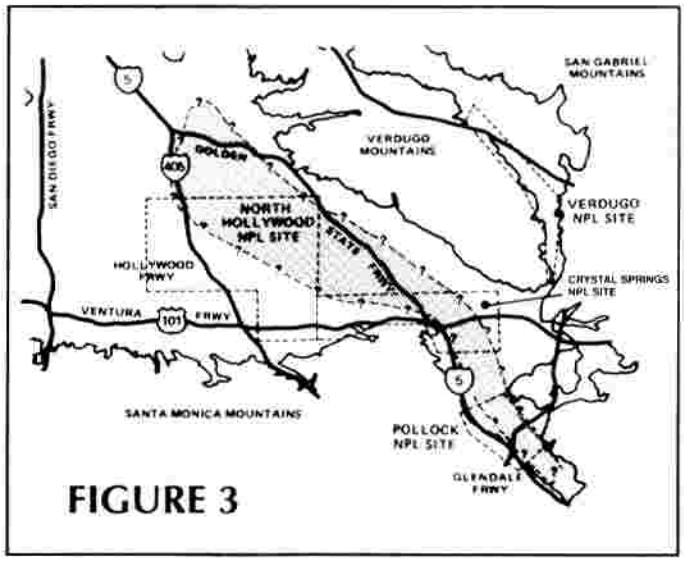


**FIGURE 3**

*Shaded area shows approximate extent of VOC contamination above MCL based on current data.*

**We need your help identifying groundwater polluters**

**If you have information about groundwater contamination or potential sources of contamination that will be of value to the investigation, please call Chris Stubbs, EPA Remedial Project Manager, at (415) 744-1890.**

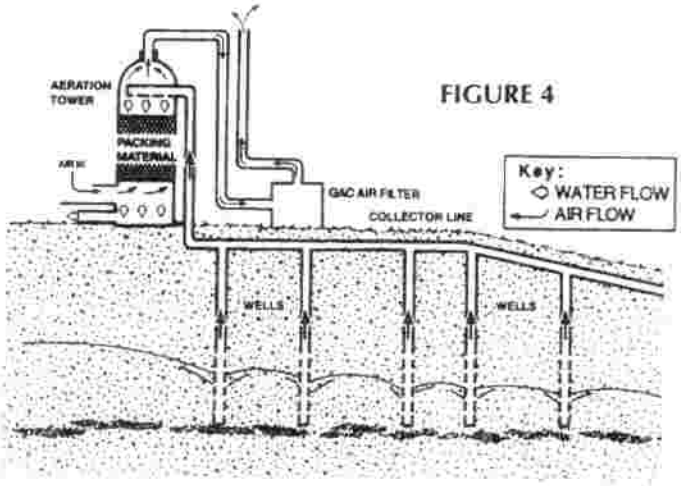


FIGURE 4

*A typical aeration facility similar to the North Hollywood Extraction and Treatment Plant.*

# SITE SPECIFIC CLEANUP ACTIVITIES

EPA and LADWP are evaluating and constructing individual cleanup measures to address the most immediate contamination problems. These individual measures are called operable units. Operable units have been designated for North Hollywood and Burbank in the North Hollywood NPL site. An operable unit has been designated in Glendale in the Crystal Springs NPL site. The results of studies for each operable unit will be integrated into the long-term basinwide cleanup plan. The current status of each operable unit is described below.

## North Hollywood Cleanup Plan

In September 1987, EPA signed a Record of Decision for the North Hollywood Operable Unit. The Record of Decision documents the selection for the preferred remedy at the operable unit. EPA and the State of California constructed a groundwater extraction and treatment facility to remove the highest concentrations of VOCs within a portion of the North Hollywood NPL site. Construction was completed in early 1989 and the facility began extracting and treating water in March 1989. EPA has paid for 90% of the construction and operation of the facility. The California Department of Health Services (DHS) funded the remaining 10% of the construction costs, and LADWP pays the remaining 10% of the operation costs. EPA pays 90% of the operation and maintenance costs for 10 years.

The facility is located at 11845 Vose St., near Lankershim Boulevard in the North Hollywood section of Los Angeles. Eight extraction wells pump the groundwater to the top of a 45 foot tower. As the water cascades through packing material in the tower, air is forced up through the water. As the water comes into contact with the air, the volatile organic compounds (VOCs) transfer into the air stream. The air stream is filtered through two tanks containing granular activated carbon (GAC), a specially treated material that attracts the contaminants. The treated air meets all federal and state air quality standards. Figure 4 shows a typical aeration facility similar to the North Hollywood Extraction and Treatment Plant.

The treated water is disinfected and flows through a pipeline to LADWP's North Hollywood Pumping Station for distribution to the public. The water meets state and federal drinking water standards. EPA intends to recover the costs from PRPs that were incurred during the investigation, construction and operation of the North Hollywood operable unit.

### Status of San Fernando Superfund Activities

| Remedial Investigation (Data Collection) | Feasibility Study (Analysis of Alternatives) | Proposed Plan | Record of Decision (Selection of Plan) | Design | Construction | Operation |
|---|---|---|---|---|---|---|
| North Hollywood Operable Unit | | | | | | |
| Burbank Operable Unit | | | | | | |
| Glendale Operable Unit | | | | | | |
| Basinwide Plan | | | | | | |
| Enforcement – Ongoing | | | | | | |

## Burbank Cleanup Plan

In June 1989, EPA signed the Record of Decision for the Burbank Operable Unit, selecting a remedy similar to the one chosen for the North Hollywood Operable Unit. EPA has proposed locating the facility on City of Burbank property near the intersection of Hollywood Way and Victory Boulevard. During treatment system design, the final location will be chosen. Monitoring wells will also be installed to monitor the system and effect on groundwater movement and quality. Treated water will be delivered to Burbank's water supply system for distribution to the public and/or put back into the basin.

EPA is negotiating with PRPs in the Burbank area to reach an agreement in which the PRPs will pay for design, construction, and operation of the treatment facility and will reimburse EPA for the earlier Burbank area study and enforcement costs.

## Glendale Cleanup Plan

High concentrations of VOCs have been found in groundwater in the Glendale area of the Crystal Springs NPL site. Glendale has closed most of its wells and is now receiving the majority of its drinking water from imported surface water. A Feasibility Study will be conducted for the Glendale operable unit to determine what cleanup measures may be appropriate to protect human health and the environment.

Groundwater testing is underway in Glendale to define the nature and extent of the contamination. LADWP will begin the Operable Unit Feasibility Study in late 1990 when data from the Remedial Investigation will be available. When the Glendale OUFS has been completed, EPA will request public comment on the proposed cleanup alternatives.

EPA is identifying potential sources of contamination in the Glendale area. As with the Burbank Operable Unit, EPA will negotiate with PRPs in the Glendale area to get them to pay for design, construction, and operation of the selected remedy and reimburse EPA for study costs.

## GLOSSARY

**AERATION FACILITY:** A treatment system that removes volatile organic compounds from contaminated water by forcing air through the water. The volatile chemicals evaporate when exposed to the air.

**ARARs (Applicable or Relevant and Appropriate Requirements):** Remedial actions must comply with relevant and appropriate or applicable federal and state laws at Superfund Sites.

**CONTAMINANT PLUME:** A three-dimensional zone within the groundwater aquifer containing contaminants that generally move in the direction of, and with, groundwater flow.

**GAC (Granular Activated Carbon):** An adsorptive material that attracts and holds contaminants. GAC has been demonstrated to be especially effective due to its large adsorption surface area.

**HAZARDOUS SUBSTANCE:** Any material that poses a threat to public health and/or the environment. Typical hazardous substances are materials that are toxic, corrosive, ignitable, explosive, or chemically reactive.

**MCL (Maximum Contaminant Levels):** Enforceable standards that apply to public drinking water supplies.

**MONITORING WELL:** Wells drilled at specific locations for the purpose of determining direction of groundwater flow, types and concentrations of contaminants present, or vertical or horizontal extent of contamination.

**NPL (National Priorities List):** A list of the top-priority hazardous substance sites in the country that are eligible for investigation and cleanup under the federal Superfund program.

**OPERABLE UNIT:** A discrete action taken that contributes to the permanent site cleanup. A number of operable units can be conducted during the course of a Superfund project.

**PERCOLATING WATER:** Surface water that filters through the soil and eventually reaches the groundwater.

**PRP (Potentially Responsible Party):** An individual or company potentially responsible and therefore potentially liable for the cost of cleaning up contamination at a Superfund site.

**PRODUCTION WELL:** A well that pumps water out of the ground to provide a municipal, agricultural, or industrial water supply.

**ROD (Record of Decision):** A public document that explains what cleanup alternative will be used at a specific NPL site. The ROD is based on information and technical analysis generated during the remedial investigation/feasibility study and consideration of public comments and community concerns.

**VOC (Volatile Organic Compound):** An organic (carbon containing) compound that evaporates readily at room temperature. VOCs are commonly used in dry cleaning, metal plating and machinery degreasing.

## FOR MORE INFORMATION

Questions, comments, or concerns about the San Fernando Superfund Project can be addressed to:

**Fraser Felter**
**Community Relations Coordinator**
U.S. EPA
1235 Mission St. (H-1-1)
San Francisco, CA 94103

**Alisa Greene**
**Remedial Project Manager**
U.S. EPA
1235 Mission St. (H-6-4)
San Francisco, CA 94103

**EPA's Superfund Toll-Free Message Line:** 1-800 231-3075. Please leave your name and number for Fraser Felter and your call will be returned.

Copies of general introductory material, previous fact sheets, and Superfund documents are available at the following information repositories:

**California State University Northridge Library**
18111 Nordhoff St.
Northridge, CA 91330
(818) 885-2285
Contact: Mary Finley

**The University Research Library/U.C.L.A.**
Public Affairs Service
405 Hilgard Ave.
Los Angeles, CA 90024
(213) 825-3135
Contact: Barbara Silvernail

**L.A.D.W.P. Library**
111 North Hope St., Room 518
Los Angeles, CA 90012
(213) 481-4612
Contact: Joyce Purcell

**City of Glendale Public Library**
222 East Harvard St.
Glendale, CA 91205
(818) 956-2027
Contact: Lois Brown

**City of Burbank Public Library**
110 North Glenoaks Blvd.
Burbank, CA 91502
(818) 953-9741
Contact: Helen Wang

## AGENCY COORDINATION

Due to the size and complexity of the San Fernando Superfund project, many agencies must work together to clean up the groundwater contamination and protect human health and the environment. These agencies are briefly described below:

**EPA** – The U.S. Environmental Protection Agency (EPA) has overall responsibility for cleanup and enforcement efforts at the San Fernando Valley Superfund sites. EPA provides review and oversight for the Remedial Investigation and Operable Unit Feasibility Studies. EPA also conducts cleanup, enforcement, and community relations activities and is the primary funding agency. EPA has delegated additional tasks to other agencies.

**LADWP** – The Los Angeles Department of Water and Power (LADWP) has overall responsibility for water supply in the City of Los Angeles. As part of this role, LADWP is required to provide water to its customers that meets state and federal drinking water standards.

In 1987, EPA signed a cooperative agreement with LADWP which provided LADWP with federal funds to conduct the basinwide Remedial Investigation, to construct the North Hollywood treatment facility, and to conduct the Burbank and Glendale Operable Unit Feasibility Studies. EPA has also signed a cooperative agreement with the Regional Board to assist in identifying sources of contamination and PRPs.

**Regional Board** – The Los Angeles Regional Water Quality Control Board is one of several agencies responsible for the protection of surface and groundwater for the State of California. The Regional Board investigates facilities which use, store, or handle chemicals and when contamination is found, requires site cleanup. Through a cooperative agreement with EPA, the Regional Board has been provided additional funds to investigate potential sources of groundwater contamination and when required, orders site specific source cleanup in the San Fernando Valley.

**Department of Health Services (DHS)** – The Department of Health Services (DHS) is the state agency responsible for protecting the health and welfare of California residents. DHS, through its Office of Drinking Water, requires regular testing of drinking water and has established state standards for more than 50 potential contaminants. Drinking water suppliers that service five or more connections (approximately 15 people) must meet the standards. Through its Toxic Substances Control Program, DHS also enforces state hazardous waste cleanup requirements.

**Burbank and Glendale** – The Cities of Burbank and Glendale each provide drinking water to their residents through local municipal utilities. As water providers, each city must test water regularly and ensure that water supplies meet federal and state standards. Both cities have been closely involved in the Superfund studies.

**ULARA Watermaster** – The Upper Los Angeles River Area Watermaster is appointed by the Los Angeles Superior Court and is responsible for ensuring compliance with the Superior Court Judgement of 1979, which defines water rights in the San Fernando Valley Basin. The Watermaster oversees and documents all actions that affect groundwater supply in the basin such as yearly rainfall, import and export of water to other areas, and pumping of groundwater for both water supply and cleanup purposes.

# COMMUNITY WORK GROUP

The Community Work Group (CWG) was established in 1987 by EPA and LADWP to provide a forum for representatives from San Fernando Valley community groups, public interest organizations, local businesses, and government agencies to discuss the Superfund project. The CWG has been meeting regularly to hear presentations and progress reports from EPA and LADWP. Members have reviewed and commented on the investigations and cleanup alternatives. To improve distribution of project information, CWG members have provided Superfund status reports to their organizations.

*EPA and LADWP would like to introduce six current and former Community Work Group members:*

**David Brooks** lives in Glendale and works for the Crescenta Valley County Water District as Secretary to the Board and District Auditor. He has been interested in water quality for many years and sees the CWG as a way to keep informed about progress of the groundwater cleanup. He notes that most people are interested in health and need to receive more information about the water supply system and regulations that govern drinking water.

**Barbara Fine** is Vice President of the Federation of Hillside and Canyon Associations. She is a professional journalist and is currently a student at U.C.L.A. She is also a member of the City of Los Angeles Solid Waste Citizens Advisory Group. Barbara became interested in water quality when she learned that stormwater from overloaded drains carried pollutants which were seeping into the San Fernando Valley groundwater. She feels that too few people are aware of the source of their drinking water and that groundwater cleanup is important to everyone.

**Ingrid Markul** serves as the Air and Water Consultant to the League of Women Voters. Ingrid is a retired science teacher living in West Los Angeles. She has always had an interest in environmental issues and joined the CWG to learn more about groundwater contamination and cleanup. She enjoys relaying the technical information to the League and feels that awareness of the Superfund site has improved. She recently organized a successful symposium for community members on drinking water issues.

**Mike Nolan** is a Director of the Metropolitan Water District and represents the City of Burbank on the CWG. He participates in the CWG to keep current on groundwater cleanup and regularly presents information to the Burbank City Council. After getting involved in the CWG, Mike realized the group could encourage steady progress in the cleanup process. He feels that in spite of differing opinions on many issues, members of the CWG have learned from one another and have maintained a focus on the groundwater contamination problem and how it affects their communities.

**Patty Prickett** represents California Advocates for Pure Water. When asked why she was interested in the Community Work Group, Patty replied, "As a mother, it's hard not to be interested in drinking water!" Since learning about water quality as a researcher for a city councilperson, she has educated others and encouraged them to influence water quality policy. She feels it is important to monitor EPA and LADWP cleanup activities through the Community Work Group.

**Jim Wilson** is retired and lives in Los Angeles. He attends meetings as a representative of the Council of Community Clubs in Los Angeles, a community improvement organization. He sees the cleanup of contaminated groundwater as a way to improve the quality of life for people in his community, and he joined the CWG to find out what is being done to improve water quality.

# OPPORTUNITIES FOR COMMUNITY INVOLVEMENT

EPA welcomes questions and comments from you. Comments can be directed to the EPA representatives listed on page 6. The public is encouraged to attend Community Work Group meetings. Contact Bob Haw, LADWP, at (213) 482-7295 (M-Th, 7:00-4:00) for additional information.

EPA also holds public meetings to receive comments before deciding on cleanup actions. Individuals returning the enclosed mailing list coupon will be sent notices of future public meetings and activities.

# TECHNICAL ASSISTANCE GRANTS PROGRAM

Technical Assistance Grants (TAGs) are available for all federal Superfund and National Priority List (NPL) sites. The TAG program provides funds for community groups to hire a technical advisor to assist in interpreting technical information. Under this program, one eligible community group at each Superfund site may obtain one grant of up to $50,000. To be eligible, a group must: be legally incorporated; meet a 20% matching funds requirement; and prepare a plan for how the technical assistance grant will be used. For more information on the program, contact Jack Lockwood, EPA TAG Coordinator, at 1-800-231-3075.

## *MAILING LIST COUPON*

If you did not receive this fact sheet in the mail and would like to be included on the mailing list for the San Fernando Valley Superfund project, please fill out this coupon and return it to the EPA Office of Community Relations.

**Name:**_____ **Telephone:** _____

**Address:**_____

**Organization/Affiliation (if any):** _____

***Return to:***
**Office of Community Relations, U.S. EPA, 1235 Mission Street (H-1-1), San Francisco, CA 94103**

**United States Environmental Protection Agency-Region IX**

**Office of Community Relations**
**1235 Mission Street (H-1-1)**
**San Francisco, CA 94103**
**Attn: Fraser Felter**

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